Space Weather Forecast

Issued on Saturday, 26 November 2022 at 12:09 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Chance of Minor Geomagnetic Storm (G1) intervals through the period.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Very Low in the past 24 hours, with occasional upper level Background-class flares. There are currently four numbered Earth-facing sunspots small, simple and apparently stable. Three of the regions are transiting toward the western limb, with the other region located in the northeast quadrant.

No new Earth-directed Coronal Mass Ejections (CMEs) have been observed in available imagery.

Solar Wind / Geomagnetic Activity: The solar wind was in the range elevated to slightly elevated under coronal hole influence, with a slight downward trend since midnight UTC. The corresponding magnetic field associated with the solar wind was Weak, with the important north-south component fluctuating weakly. Geomagnetic activity was mostly Unsettled, but with an Active (Kp 4) spell between 25/2100-26/0300 UTC.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to remain Low or Very Low, with a chance of isolated Common-class flares and a very slight chance of isolated Moderate-class X-ray flares.

Solar Wind / Geomagnetic Activity: Several recent CMEs have occurred on, or close to the Earth-Sun line. There is greater than average uncertainty regarding the timings and impacts of these features however, given intermittent solar imagery and faint coronagraph signatures to fit analysis.

The ongoing high-speed stream from a coronal hole, coupled with further high-speed streams expected in the coming days means that Elevated solar winds are expected to continue through 26-28 Nov (Day 1-3), perhaps slowing to Slightly Elevated levels on Day 4 (29 Nov), though with low confidence.

Geomagnetic activity is expected to be mainly Unsettled to Active on Day 1, but with a chance of G1/Minor Storm intervals. From Day 2 onwards mainly Unsettled activity is expected, but with low confidence given the presence of a number of high-speed streams and uncertain CME timings and impacts. As such, there will be an ongoing slight chance of G1/Minor Storm intervals throughout the period.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.

Met Office Space Weather Forecast

Energetic Particles / Solar Radiation: No solar radiation storms are currently expected during the forecast period.

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	30	20	20	20
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.